

## REMARKS

Claim 13 has been objected to as including redundant subject matter with respect to its bas claim. Accordingly, Claim 13 has been cancelled, without prejudice. Withdrawal of this objection is respectfully requested.

Claims 1, 2 and 4-7 stand rejected under 35 U.S.C. §112, first paragraph, as being allegedly based on a non-enabling disclosure. The language at issue has been removed from independent Claims 1, 6 and 7. Accordingly, this rejection has been rendered moot with respect to independent Claims 1, 6 and 7 (and associated dependent Claims 2, 4, and 5). However, the language at issue has been added to independent Claim 8. Accordingly, Applicants will respond as though the rejection included Claim 8.

Applicants respectfully submit that the disclosure of the present application is enabling for Claim 8. More specifically, the present Specification discloses moving “at least one second data item contained in the first page to the second page or the third page according to the amount of space in each of the second or third pages.” *See* Applicants’ Specification, page 12, lines 8-12. In the description on page 12, the first page is defined as being between the second and third pages (i.e., ② ① ③). (In contrast, in the claims, the third page is defined as being between the first and second pages (i.e., ① ③ ②).) Thus, as described in the quoted passage of the Specification, where there is insufficient space in either the second or third page, and there is sufficient space in the other, the data will be moved to the page with sufficient space, whether it is the second page or the third page (i.e.,

the movement is determined “according” to the amount of space). Thus, the following possible situations are described in the Specification, where arrows represent movement of data:

(a) ② ← ① ③; and

(b) ② ① → ③.

Due to the different page numbering in the claims, these same two situations are represented in the claims as follows, when using the page numbering defined in the claims:

(a) ① ← ③ ②; and

(b) ① ③ → ②.

Thus, as can be seen from the above description and illustrations, the Specification does describe moving data from the third page to both the first and second pages, as this page numbering order is defined in the claims. Further support that the data can be moved to either adjacent page can be found on page 22 (line 2) through page 23 (line 9) of the original Specification, which discloses determining the amount of available space in both the page preceding the target page and the page following the target page, and moving data to either the preceding page or the following page, depending upon which one has available space. Accordingly, as the Specification has been shown to be enabling, Applicants respectfully request the withdrawal of this §112, first paragraph, rejection of Claim 8.

Applicants would also like to take this opportunity to clarify the following two issues that the Examiner appears to have misunderstood. First, on page 19, lines 1-4 of the April 5, 2006 Final Office Action, the Examiner stated that “moving the second data item to the first page does not occur” and that “the second data item is instead moved to the second page.” With this description, the Examiner is partially correct, but only for the limited situation where “both the first and second pages have sufficient available space,” as stated on page 5, lines 25-26 of the Specification. Where there is only space in either the first page or the second page, the data is moved to the whichever page has the space. Further, always moving data to the second page when both the first and second pages have available space is an optional feature. *See* page 5, lines 19-21 of the Specification (“The process according to the first aspect of the present invention may have one or any possible combination of the following additional features (i) to (iv).” (emphasis added)).

Second, the Examiner has stated that Applicants’ reference to the page 14, lines 1-2 of the Specification does not apply to the situation defined in Claim 1. *See* April 5, 2006 Final Office Action, page 19, lines 10-17. While the Examiner is correct that this portion of the Specification refers to the situation in which there is no available space in the target page, the Examiner appears to have misunderstood what the “target page” is. The “target page” is the page into which the first data item is intended to be inserted (i.e., the third page of Claim 1), and not the page where the second data item (i.e., a data item already present in the third page) is intended to be moved to. Accordingly, page 14, lines 1-2 of the Specification does

apply to the situation previously defined in Claim 1, and it provides further support that previous Claim 1, and the other claims, are adequately enabled by the Specification.

Claims 1, 2 and 5-7 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The language at issue has been removed from independent Claims 1, 6 and 7. Accordingly, this rejection has been rendered moot with respect to independent Claims 1, 6 and 7 (and associated dependent Claims 2, 4, and 5). However, the language at issue has been added to independent Claim 8. Accordingly, Applicants will respond as though the rejection included Claim 8.

In Claim 8, step (c) refers to the general case of moving an item to the first page or the second page according to the amount of space in either the first page or the second page. The further description of step (c), of lines 20-21 of Claim 8, is a conditional statement that only applies “when” certain conditions are present (i.e., when the first page has sufficient available space and the second page does not). Thus, when the specific conditions of lines 20-21 are met, the data is moved to the first page. Conversely, when the specific conditions of lines 20-21 are not met, the data need not be moved to first page. As long as the specific conditions of lines 20-21 are not met, the general case applies, and therefore there is a situation in which the data can be moved to the second page, as stated on lines 11-13 of Claim 8. Accordingly, as independent Claim 8 is clear for the purposes of §112, second paragraph, Applicants respectfully request the withdrawal of this rejection.

Claims 1, 2 and 4-17 stand rejected under 35 U.S.C. §103 as being unpatentable over United States Patent No. 5,307,486 to Nakamigawa in view of the Culik publication “Dense Multiway Trees.” Applicants have cancelled Claims 4, 10, 11, 12 and 13, without prejudice, thereby rendering this rejection moot with respect to these claims. However, with respect to Claims 1, 2, 5-9, and 14-17, Applicants respectfully traverse this rejection.

Although Applicants do not agree that the cited references disclose or suggest the step of “storing, in an available space information storing unit, information on an amount of available space in each of said plurality of pages,” as defined in independent Claim 1, and the similar features defined in independent Claims 6-9, Applicants have opted to amend the claims in order to expedite prosecution.

Applicants respectfully traverse this rejection of amended independent Claims 1 and 6-9 because the cited references fail to disclose or suggest, *inter alia*, that the “amount of available space is classified into one of a plurality of ranges of amounts of available space” and that the information on the amount of available space stored in the available-space-information-storing unit is one of these ranges. One example of an embodiment of this feature is shown in Applicants’ Figures 3(A) and (B). Figure 3(B) shows how the amount of available space is classified into a plurality of ranges (such as the following four ranges: 0-19%, 20%-39%, 40%-59%, and 60%-100%), and how those ranges are each assigned a binary indication value. Figure 3(A) shows how the information on the amount of available

space, such as the table of Figure 3(A), indicates one of the plurality of ranges by referring to the binary indication value (from Figure 3(B)) for each page number. Thus, the amount of available space stored in the available-space-information-storing unit is not a precise value of the exact amount of space, but is merely a value that indicates that the available space is within one of a plurality of predetermined ranges.

In contrast, neither the Nakamigawa reference nor the Culik publication disclose or suggest such a feature with the plurality of ranges of amounts of the available space being stored in an available-space-information storing unit, as defined in amended independent Claims 1 and 6-9. The Examiner indicated that he considered that values  $M'$ ,  $M$ ,  $m'$  and  $m$  of the Nakamigawa reference satisfy the claimed ranges. *See* April 5, 2006 Office Action, page 21, lines 3-11. However, values  $M'$ ,  $M$ ,  $m'$ , and  $m$  are not ranges, but are each merely a single value. More specifically,  $M$  is the upper limit pointer count and  $m$  is the lower limit pointer count. Additionally,  $M'$  and  $m'$  are auxiliary constants calculated on the basis of  $M$ ,  $m$  and the buffer rate, and  $M'$  and  $m'$  are limits that are compared with the pointer counts of adjacent nodes. Thus, the values  $M$ ,  $M'$ ,  $m$  and  $m'$  are the values that the pointer counts are compared to, and they are not stored information on the amount of available space in a page, as defined in Claims 1 and 6-9. Thus, all of the features of claims 1 and 6-9 are not disclosed in the Nakamigawa reference. Nor is this deficiency remedied by the Culik publication. Accordingly, for at least this reason, Applicants respectfully request

the withdrawal of this §103 rejection of independent Claims 1 and 6-9 and their associated dependent claims.

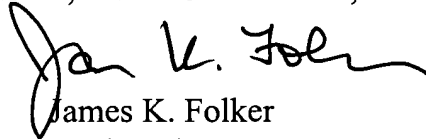
Applicants also separately traverse independent Claim 8 because this claim also includes a feature in which a latter page (second page) is higher in priority than a former, or earlier, page (first page). Thus, in the invention of Claim 8, if the first page and the second page both have sufficient available space, data is moved into the second page, and if the second page does not have sufficient available space and the first page does, the data is moved into the first page. Such features are not disclosed or suggested in the cited references. Accordingly, for this reason also, withdrawal of the §103 rejection of Claim 8 is respectfully requested.

For all of the above reasons, Applicants request reconsideration and allowance of the claimed invention. Should the Examiner be of the opinion that a telephone conference would aid in the prosecution of the application, or that outstanding issues exist, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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